

REMARKS

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 1, 2, 4, 9, 11-14, 25-28, 31, 33, and 35-40 are currently pending.
- Claims 3, 5-8, 10, 16, 21-23, 29-30, 32, and 34 have been previously canceled.
- Claims 15, 17-20, and 24 have been previously withdrawn.

Cited Documents

The following documents have been applied to reject one or more claims of the Application:

- **McCanne:** McCanne, U.S. Patent Application Publication No. 2004/0010616,
- **Mori:** Mori, et al., U.S. Patent Application Publication No. 2004/0213223, and
- **Ott:** Ott, et al., U.S. Patent Application Publication No. 2003/0120817.

Claims 1, 2, 4, 9, 11-14, 25-28, 31, 33, 35-39 Are Non-Obvious Over McCanne in view of Mori

Claims 1, 2, 4, 9, 11-14, 25-28, 31, 33, 35-39 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over McCanne in view of Mori. Applicant respectfully traverses the rejection.

Independent Claim 1

Claim 1 recites a method comprising (with emphasis shown):

receiving a message at a routing node in an overlay network, the message comprising a header and a body, wherein the header comprises information for routing the message;

passing the message to the application level at the routing node to process the message;

generating by the routing node a routing policy message, the routing policy message including a routing policy, wherein the routing policy comprises instructions for routing nodes for redirecting messages, wherein redirecting is based at least in part on the body of the message;

instructing the sending node to bypass a first routing node and issue the routing policy message to a second routing node, the instructing based in part on the routing policy of the routing policy message;

accessing a routing table by the second routing node to determine a final destination address to route the message, the routing table includes categories of messages and a corresponding address for the message;

identifying by the sending node the final destination address to which to route the message based in part on the routing policy of the routing policy message;

after identifying the final destination address, incorporating by the sending node the routing policy into the body of the message;

forwarding by the sending node the message to the final destination address in the overlay network based on the instructions; and

returning the routing policy message which includes the routing policy to the sending node when it is determined that the sending node does not have routing policy instructions derived from the body of the message.

McCanne generally pertains to “the overlay protocol uses “native” Internet multicast and multicast routing protocols to route information, according to overlay routing tables.” McCanne, Abstract. “The RIB is a routing table that gives shortest path routes.” McCanne, para. [0124]. The “overlay routers forward packets to a group of peer routers simply by transmitting a single copy using native multicast.” McCanne, para. [0130]. “This method of forwarding is isomorphic with that of unicasting a copy to each peer.” *Id.* “In the overlay topology, each peering relationship across a multicast transit

[virtual interface] VIF is managed as if it were a separate, point-to-point connection.” *Id.* “When a packet crosses a routing domain, it must enter the new domain at a point that is topologically matched to that domain's view of the distribution tree.” McCanne, para. [0141]. “If the outer-domain protocol has an alternate viewpoint, the packet arrives at the wrong location and is dropped.” *Id.*

Mori is directed towards “a communication apparatus capable of being connected to networks of a plurality of types, comprising a routing table for selecting an outgoing network of the call setup message, and a control unit for rewriting the contents of an address field and a sub-address field of the received call setup message on the basis of the routing table and transmitting the resultant message to the outgoing network.” Mori, Abstract. Mori pertains to “an asynchronous transfer mode (hereinafter, referred to as ATM) communication technique and, more particularly, a communication technique using a switched virtual channel (hereinafter, referred to as SVC).” Mori, para. [0002]. An optimum path “with the status of networks and selectively constructing a part of a communication path between terminals by a [permanent virtual channel] PVC or SVC. Mori, para. [0007]. “The attribute of an incoming network from which a call setup message is received is discriminated by the network discriminating table, and an outgoing network to which the call setup message is sent out is selected by the routing table.” Mori, para. [0029].

McCanne and Mori fail to teach or suggest bypass a first routing node as recited in claim 1

McCanne and Mori fail to teach or suggest “instructing the sending node to bypass a first routing node and issue the routing policy message to a second routing node, the instructing based in part on the routing policy of the routing policy message,” as recited in Applicant’s claim 1. Rather, McCanne mentions forwarding packets to a group of peer routers by transmitting a single copy, **unicasting a copy to each peer**. In contrast, Applicant’s claim 1 mentions bypassing a first routing node and issuing the routing policy to a second routing node, versus forwarding packets, a single copy to each peer. Thus, McCanne and claim 1 are not the same and do not perform the same functionalities.

Mori fails to remedy the deficiencies of McCanne. Mori describes selectively constructing a part of a communication path between terminals by a PVC or SVC. Nowhere is there any mention or discussion in Mori of bypassing a first routing node.

In the rejection of claim 1, the Office states that these recited features are taught or suggested by McCanne, paragraphs 203-206. For convenience, Applicant reproduces the quoted citations in McCanne used by the Office (Office Action, pg. 3), shown below:

[0205] Packet 210 is received by MediaBridge computer M2. M2 is part of a native multicast group and so is able to distribute the packet via native multicast over the native multicast channel "a." Accordingly, M2 changes the destination and source indicators in the native header to "a" and M2, respectively. Packet 212 is then transmitted throughout multicast domain 214 where it is received by M3 and M4. MediaBridges such as M5 which haven't joined native multicast group "a" do not receive packet 212.

McCanne, para. [0205]

The citation quoted in McCanne merely describes how M5 has not joined the native multicast group “a” so it will not receive the packet. Rather, McCanne teaches away from “bypass a first routing node” by mentioning how the packet 212 is transmitted throughout the multicast domain 214. In contrast, Applicant’s claim 1 is for instructing the sending node to bypass a first routing node and issue the routing policy message to a second routing node. As these are different, the combination of McCanne and Mori fail to teach or suggest the recited features.

McCanne and Mori fail to teach or suggest a routing table... as in recited in claim 1

Next, McCanne and Mori fail to teach or suggest “accessing a routing table by the second routing node to determine a final destination address to route the message, the routing table includes categories of messages and a corresponding address for the message,” as recited in Applicant’s claim 1.

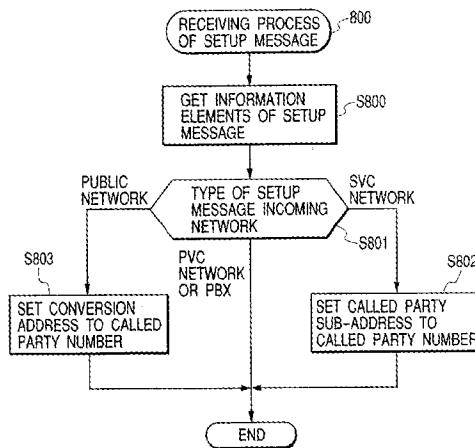
Rather, McCanne describes how information is routed according to overlay routing tables, which gives the shortest path routes. The routing table in McCanne gives the shortest path routes while accessing the routing table in Applicant’s claim 1 is to determine a final destination address and further includes categories of messages and corresponding address. The mere mention of the word “routing table” in McCanne does not teach or suggest the features of claim 1.

Mori fails to remedy the deficiencies of McCanne. Mori is not directed towards routing in an overlay network. Claim 1 recites “receiving a message at a routing node in an overlay network.” Rather, Mori is for a call set up message using a communication

apparatus connected to networks of a plurality of types, not for determining a final destination address in the overlay network. Even though, Mori mentions a routing table, the routing table is for selecting an outgoing network, not the routing table for a final destination address [in the overlay network], which includes categories of messages and a corresponding address for the message, as recited in Applicant's claim 1.

In the rejection of claim 1, the Office states that these recited features are taught or suggested by Mori. The Office points to the Abstract, paragraphs 33-42, and Figures 3-8 in Mori. For convenience, the citation that is quoted by the Office, step S801 in Figure 8, is reproduced below:

FIG. 8



S801 in Mori shows a procedure for the call setup message 800. It shows how the type of call set message may be PVC or SVC. As mentioned, Mori is for a plurality of networks not for an overlay network. This is not the same as accessing a routing table in the overlay network to determine a final destination, nor categories of messages and a corresponding address for the message. Thus, the combination of McCanne and Mori fail to teach or suggest the features recited in Applicant's claim 1.

McCanne and Mori fail to teach or suggest a returning policy... as recited in claim 1

Next, McCanne and Mori fail to teach or suggest “returning the routing policy message which includes the routing policy to the sending node when it is determined that the sending node does not have routing policy instructions derived from the body of the message,” as recited in Applicant’s claim 1.

A thorough inspection of McCanne and Mori fail to reveal a teaching or a suggestion of this feature. Rather, McCanne describes if a packet crosses a routing domain, it must enter the new domain at a point that is topologically matched to that domain's view. In McCanne, if the outer-domain protocol has an alternate viewpoint, the packet arrives at the wrong location and **is dropped**. In contrast, Applicant’s claim 1 recites how the routing policy message is returned to the sending node not dropping the packet. Dropped packet and returned policy message are different functionalities.

Mori fails to compensate for the deficiencies of McCanne. As there is no mention or discussion in Mori, it cannot teach or suggest the features.

In the rejection of these features for claim 1, the Office fails to provide any citations. The Office states that McCanne does not expressly disclose the recited features. In particular, on pg. 5 of the Office Action, the Office states:

“that the routing nodes of McCanne forward routing messages between each other in order to route messages. It would have been obvious to one of ordinary skill in the art at the time of the invention in order to use basic error checking, such as making sure there was routing policy data contained in the message, and if not, returning the routing policy to the sending node.”

Applicant respectfully disagrees. It is not appropriate for the Office to state that it would have been obvious to one of ordinary skill in the art to use basic error checking, without providing a teaching or a suggestion from McCanne. The Office has failed to show that the element is expressly disclosed, taught, or suggested by McCanne. Applicant asserts the Office has failed to establish a *prima facie* case of obviousness for claim 1.

Again, a thorough inspection of McCanne and Mori fails to reveal a teaching or a suggestion of these recited features. Thus, the references cannot teach or suggest these recited features.

For at least the reasons presented herein, the combination of McCanne and Mori does not teach or suggest all of the features of claim 1. Accordingly, Applicant respectfully requests that the Office withdraw the §103 rejection of claim 1.

Independent Claim 25

Independent claim 25 is directed towards a computer program storage medium and is allowable for reasons similar to those discussed above with respect to Applicant's claim 1. For example, independent claim 25 recites the following features "instructing the sending node to bypass a first routing node and issuing the routing policy message to a second routing node, the instructing based in part on the routing policy of the routing policy message; accessing a routing table by the second routing node to determine a final destination address to route the message, the routing table includes types of messages and a corresponding address for the message."

For reasons similar to those discussed above with respect to claim 1, McCanne and Mori, alone or in combination, fail to teach or suggest at least “instructing the sending node to bypass a first routing node and issuing the routing policy message to a second routing node, the instructing based in part on the routing policy of the routing policy message; accessing a routing table by the second routing node to determine a final destination address to route the message, the routing table includes types of messages and a corresponding address for the message,” as presently recited in Applicant's claim 25. Accordingly, Applicant respectfully submits that claim 25 is allowable over the combination of McCanne and Mori for at least the reasons set forth above with respect to claim 1. Applicant respectfully requests withdrawal of the rejections under §103.

Independent Claim 31

Independent claim 31 is directed towards a computer program storage medium and is allowable for reasons similar to those discussed above with respect to Applicant's claim 1.

Claim 31 recites the following features “accessing a routing table to identify a final destination address to route the message based at least in part on the routing policy, the routing table includes categories of messages and a corresponding address for the message.”

For reasons similar to those discussed above with respect to claim 1, McCanne and Mori, alone or in combination, fail to teach or suggest at least “accessing a routing table to identify a final destination address to route the message based at least in part on the

routing policy, the routing table includes categories of messages and a corresponding address for the message,” as presently recited in Applicant’s claim 31. Accordingly, Applicant respectfully submits that claim 31 is allowable over the combination of McCanne and Mori for at least the reasons set forth above with respect to claim 1. Applicant respectfully requests withdrawal of the rejections under §103.

Dependent Claims 2, 4, 9, 11-14, 26-28, 33, and 35-39

Claims 2, 4, 9, 11-14, 26-28, 33, and 35-39 ultimately depend from one of independent claims 1, 25, or 31. As discussed above, claims 1, 25, and 31 are allowable over the cited documents. Therefore, claims 2, 4, 9, 11-14, 26-28, 33, and 35-39 are also allowable over the cited documents of record for at least their dependency from an allowable base claim, and also for the additional features that each recites.

Applicant respectfully submits that the cited reference does not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant respectfully requests withdrawal of the rejection under §103.

Claim 40 Is Non-Obvious Over McCanne in view of Mori, and further in view of Ott

Claim 40 stands rejected under 35 U.S.C. §103(a) as allegedly being obvious over McCanne in view of Mori, and further in view of Ott. Applicant respectfully traverses the rejection.

Claim 40 ultimately depends from independent claim 1. As discussed above, claim 1 is allowable over the combination of McCanne and Mori. Ott is cited for its alleged teaching of “after returning the routing policy message to the sending node, the routing node combining the routing policy with other received routing policies into a master routing policy for nodes in the overlay network” as recited in Applicant’s claim 40. However, Ott fails to remedy the deficiencies of McCanne and Mori, as noted above with regard to independent claim 1. Therefore, claim 40 is also allowable over the cited documents of record for at least its dependency from an allowable base claim, and also for the additional features that it recites.

Ott is directed towards changing the wireless information service paradigm from a connection-oriented unicast network model to a dynamic content-driven multicast model using a technique called “content routing.” Ott, Abstract.

A thorough inspection of McCanne, Mori, and Ott fail to demonstrate a teaching or a suggestion of these recited features. The references cannot teach or suggest these recited features.

In the rejection of the features for claim 40, the Office cites to paragraph 23 of Ott. For convenience, Applicant reproduces the citation below:

[0023] Semantic routers aggregate interest profiles and exchange information with neighboring routers to create "content routing tables" that are used to forward packets flowing through the network. This content routing paradigm is inherently multicast-oriented, but unlike conventional IP multicast, the multicast tree is created dynamically on a packet-by-packet basis and involves no static channel mappings. Such a network is appropriate for logical services in which end-user's interest changes with time, location and information delivery needs are driven by content rather than a given physical addresses. For instance, interests which are sensitive

to the physical location of the user will be a primary source of a changing profile. An example of a location-dependent interest could be a user's desire to purchase a given object in a particular price range. The 'long-distance' interest is in driving directions to a shopping mall that carries the item. Once inside the mall, the 'medium-range' interest is to provide a list of shops carrying the item, and their current prices, special offers, etc . . . After entering a shop, the 'short-range' interest is to locate the floor, aisle, etc where the merchandise is located. In this application, the user's 'interest' does not change, i.e., "coffee shops 5 miles around me," unless changed by the user but the information being delivered to match that need does. However, a user's profile may change. For example, if a user is driving in an automobile they may continually desire or have interest in finding "coffee shops 5 miles around me" however the "5 miles around me" will change as the user continues to drive and as such a user's profile will be updated with the new position information. In the case where the user is equipped with a Global Positioning System (GPS) receiver, the delivery mechanism could automatically adapt the level of information, by detecting that the user had entered a mall, or a specific shop within that mall. Alternatively, instead of using a user's GPS receiver to detect the location of a user the present invention can delegate to the Access Point Wireless Base Station the function of stamping the wireless content consumer's position. The granularity of a microcellular system could be 1/2 mile radius, sufficient to satisfy a Location Dependent Query (LDQ), such as for example, "coffee shops 5 miles around me."

Ott, para. 23.

Applicant respectfully disagrees that Ott discloses the features of claim 40. While Ott may describe aggregating interest profiles and exchanging information with neighboring routers, there is no mention in Ott of "returning the routing policy message to the sending node" as recited in Applicant's claim 40. As there is no mention of these features, Ott fails to teach and suggest the recited features of Applicant's claim 40. Applicant asserts the Office has failed to establish a *prima facie* case of obviousness for claim 40.

For at least the reasons presented herein, the combination of McCanne, Mori, and Ott does not teach or suggest all of the features of claim 40. Accordingly, Applicant respectfully requests that the Office withdraw the §103 rejection of claim 40.

Expectation That the Next Action Will Not Be Final

Applicant submits that all pending claims are in condition for allowance. If the Office feels otherwise and believes that another action on the merits is necessary, then Applicant expects such an action rejecting the claims over additional cited documents would be Non-Final.

"A second or subsequent action on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment, nor based on information submitted in information disclosure statement " MPEP §706.07(a).

Applicant has taken no action which necessitates a new search on the part of the Office, such as amending the claims or filing an IDS with a fee. Furthermore, Applicant submits that all the criteria set forth for making a *prima facie* case of obviousness has not been met by the Office. The Office has not provided cited references to support the claim rejections. In accordance with MPEP 706.07(a), Applicant respectfully submits that finality would be premature for a subsequent action rejecting the claims.

Conclusion

For at least the foregoing reasons, all pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application.

If any issues remain that would prevent allowance of this application, **Applicant requests that the Examiner contact the undersigned representative before issuing a subsequent Action.**

Respectfully Submitted,

Lee & Hayes, PLLC
Representative for Applicant

/Shirley L. Anderson/

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Shirley L. Anderson
(shirley@leehayes.com; 509-944-4758)
Registration No. 57,763

Daniel L. Hayes
(dan@leehayes.com; 509-944-4712)
Registration No. 34,618